

REMARKS

This application has been amended and is believed to be in condition for allowance at the time of the next Official Action.

Claims 1-2, 4-15 and 17-25 are pending in the application. Claims 1-2, 4-15 and 17-18 have been amended to address the formal matters raised in the outstanding Official Action. New claims 19-24 have been added. Support for new claims 19-24 may be found in the original claims and generally throughout the specification. In particular, support for new claims 19-24 may be found in the present specification at page 5, lines 4-21.

In the outstanding Official Action, the specification was objected to for not reciting preferred subject headings under United States patent practice. Accordingly, the specification has been amended to incorporate the headings as suggested by the Official Action.

Claims 1, 2, 4-15, 17 and 18 were rejected under 35 USC §112, second paragraph, for allegedly being indefinite. This rejection is traversed.

Applicants believe that the phrase "heating power" is definite to one skilled in the art. Nevertheless, in the interest of advancing prosecution, independent claims 1, 17 and 18 have been amended to delete the phrase "heating power sufficient". Rather, the claims have been amended to further clarify that the

screw comprises a heating power/device (e.g., a power/device that allows the passage of a electrical current through the screw to heat the organic material) which heats the organic material. Support for this recitation may be found in the specification at page 9. lines 15-25.

In addition, independent claims 1, 17 and 18 have been amended to clarify that the organic material that is pyrolyzed during the process.

Claim 4 has been amended to recite that the smoke is condensed by a condensation device.

Claim 10 has been amended to utilize the transitional phrase "comprising".

In the outstanding Official Action, claims 1, 2, 4-15 and 18 were rejected under 35 USC §103(a) as allegedly being unpatentable over UNDERWOOD et al. in view of WIESSMAN and WISTREICH et al. This rejection is traversed.

UNDERWOOD teaches an aqueous wood smoke solution for favoring foodstuffs. The smoke flavor is produced by heating an oxygen-starved atmosphere ground wood or cellulose to between 400°C and 650°C. The wood or cellulose and the primary pyrolysis vapors are maintained at 400°C and 650°C for several additional seconds. The temperature is then reduced quickly and the wood smoke solution can then be separated and collected.

The equipment utilized by UNDERWOOD is specifically designed to accommodate a quick flash reaction. The fast

pyrolysis of wood is initiated in a thermal mixer (1) and continues in a transport reactor (9). The transport reactor is a length of pipe which is housed in an electrical oven (10). The mixture of hot gases and biomass passes from the thermal mixer (1), through the transport reactor (9), to the quencher (2) and to the solids separator (23). With the manipulation of the reactor volume and by manipulating heat carrier/biomass flow-rates, the residence time can be varied.

WEISMANN teaches a method producing smoke that utilizes a screw configuration. However, the material proceeding through the screw configuration is heated by external electrical heater bars. In fact, WEISMANN teaches that the material should be processed in a trough in which a screw is present only to convey material through the trough (col. 1, lines 1-15)

WISTREICH is directed to a method producing liquid smoke by treating an aqueous medium, wherein the smoke is extracted by condensation or absorption in the aqueous medium followed by concentration of the resulting solution to increase the smoke content. Hard wood in a particulate form is conveyed through an oven along a metal plate. As the hard wood proceeds through the oven, it undergoes carbonization (column 2, lines 39-52).

The Official Action contends that the combination of these publications renders the claimed invention obvious.

However, as noted in the previous amendment, none of the publications, alone or in combination with each other, discloses or suggests a heated rotatable screw as recited in the claimed invention. Indeed, none of the publications discloses or suggests a method wherein organic material is heated with a screw, wherein the screw itself contains a heating device.

Moreover, none of the publications discloses or suggests heating the organic material with temperatures as recited in the claims. Indeed, UNDERWOOD and WISTREICH teach processes that are carried out in a range above 400°C to 750°C. WEISSMAN is entirely silent as to what temperature the wood chips should be heated to in the WEISSMAN smoke generator.

In view of the above, applicants respectfully request that the rejection be withdrawn.

Claims 1, 17 and 18 were rejected under 35 USC §103(a) as allegedly being unpatentable over GRUHL. This rejection is respectfully traversed.

GRUHL relates to carbon-based catalyst for various gas-silent reactions. A carbon-based catalyst which has a carbon content of >65% by weight and a content of substantially insoluble oxides of the metals Co, Fe, Ni, Cr, V, Mo, W, Cu, Mn and Ti of, in all, 0.1% by weight and a nitrogen content of 0.2 to 5% by weight is disclosed. These catalysts are produced by a process wherein an organic material comprising unsaturated carbon-carbon bonds is pyrolyzed in a first step via a liquid

phase stage, the product formed is reduced after cooling, mixed with substantially insoluble metal oxides and/or compounds forming substantially insoluble metal oxides together with binders and, optionally, water and the resulting mixture is then formed subjected to a heat treatment.

In the third full paragraph of the outstanding Official Action, it is acknowledged that GRUHL does not disclose or suggest a heated rotatable screw comprising heating power. Rather, the Official Action contends that it would have been obvious to one of ordinary skill in the art that a metal screw would comprise heating capacity sufficient to heat the organic material since it was a heat conductor. However, the claimed invention recites that the screw comprises a heating device.

In this regard, applicants respectfully submit that GRUHL fails to render obvious the claimed invention.

Claims 1, 2, 4-15, 17 and 18 were rejected under 35 USC §103(a) as allegedly being unpatentable over HOLZSCHUH. This rejection is traversed.

Applicants respectfully submit that the outstanding Official Action fails to show that HOLZSCHUH qualifies as prior art.

The present application was filed on January 28, 2004 and claims priority to United States Provisional Application No. 60/458,951, filed on April 1, 2003. Moreover, the inventors of the present application are also identified as the same inventors

of the HOLZSCHUH publication. Accordingly, it is unclear as to what basis the Examiner applies the HOLZSCHUH publication in that it does not appear that the HOLZSCHUH publication qualifies as prior art under 35 USC §102(b), 35 USC §102(a) or 35 USC §102(e).

Thus, in this respect, applicants respectfully request that the rejection be withdrawn.

Nevertheless, applicants note that the HOLZSCHUH publication is distinct from the claimed invention in that the Official Action acknowledges on page 7 that HOLZSCHUH does not teach pyrolysis of an organic material with a heated rotatable screw. Indeed, the HOLZSCHUH patent publication does not mention a screw or a screw comprising a heating device.

In this regard, applicants respectfully submit that the Official Action fails to satisfy its burden in showing that it would have been obvious to one of ordinary skill in the art at the time the invention was made that a screw was considered an equivalent to a vibratory bed or some other method of production. Indeed, the Official Action fails to present any evidence that supports this assertion.

In view of the above, applicants respectfully request that the rejection be withdrawn.

Claims 1-16 were provisionally rejected on the grounds of non-statutory obviousness-type double patenting as allegedly being unpatentable over claims 17-34 of copending Application No. 10/612,972. This rejection is respectfully traversed.

Applicants respectfully submit that the claims of the present invention are distinct from those set forth in copending Application No. 10/612,972.

The claims of the present application do not recite an ascending tubular element or the manner in which the final product is collected in the claims of the copending application. Conversely, the claims of copending Application No. 10/612,972 do not recite a screw comprising a heating device.

As to the citation to WEISSMAN, applicants further note that the extruder screw of the WEISSMAN document has a longitudinal axis (26) whereas the helicoidal screw of the present invention does not recite such a feature. Otherwise, the electrical current would follow through the axis and not reach the surfaces of the thread of the screw which have to be heated and where the organic matter lies on. If the screw of WEISSMAN was heated by Joule effect as asserted by the Official Action, the heating would only take place along the axis, which would result in an insufficient amount of heat along the surfaces of the helicoidal spires. Thus, WEISSMAN stand in contrast the claimed invention.

Accordingly, applicants respectfully request that the rejection be withdrawn.

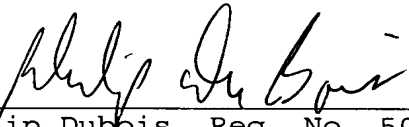
In view of the present amendment and the foregoing remarks, therefore, applicants believe that the present application is in condition for allowance at the time of the next

Official Action. Allowance and passage to issue on that basis is respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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